



LOW-TEMPERATURE BELT DRYER

stela[®]

drying technology

Innovative technology

Low consumption through energy efficiency

As technology leader in drying technology, stela always focuses on energy efficiency and quality of the finished product.

Specialisation in drying technology

stela has specialised in the complex field of drying technology in order to deliver the optimal solution for your project.

Head start through innovation

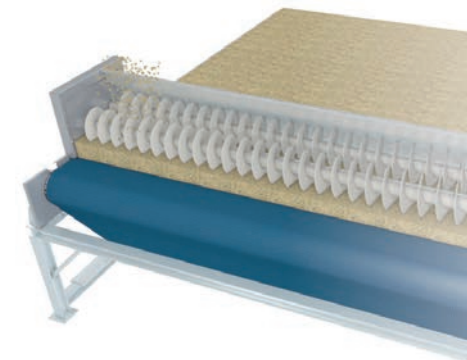
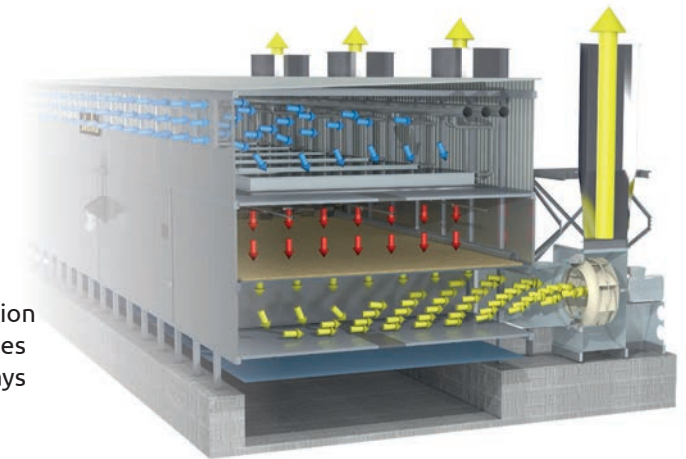
State-of-the-art technology and efficient manufacturing processes are the basis of stela's sustainable growth.

Research and development

In its in-house R&D lab, stela examines specific product properties of your project and thus determines individual drying curves.

Always at your side

From project idea and installation to commissioning and after sales services, the stela team is always at your side.



Over 4,000 successful projects worldwide

International experience

Engineered and produced in Bavaria – successfully operated worldwide. Our drying plants can be found in over 60 countries around the world.

Individual solutions for individual customers

As we installed more than 4,000 projects, we gathered a wealth of know-how from which our customers benefit worldwide.



We find customised solutions for a wide range of products, from agriculture and the food industry to energy and waste disposal technology.

Family business



100 years of experience

The experience of a medium-sized family business operating for over 100 years is the basis of our success. At stela we live and breathe drying technology. With 250 highly qualified employees and a focus on training the next generation, we are well-equipped for the challenges of the future.

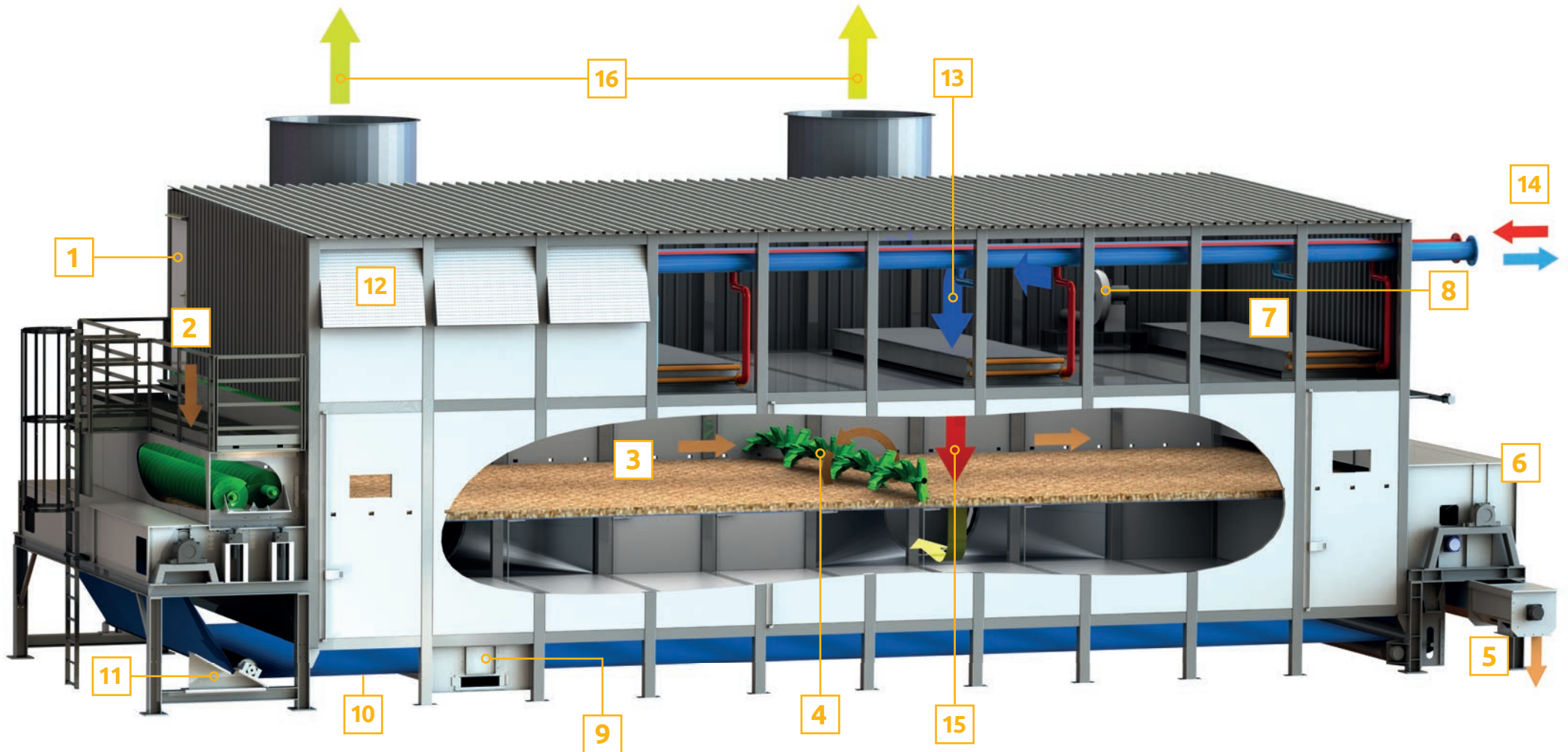
Climate-neutral production

We work energy-efficiently through optimised production processes. Climate neutrality, through the use of biomass and solar energy, is our claim as a sustainable company. We rely on proven technology and combine this with creative solutions for flexible production.

Competent team

To ensure that work processes mesh smoothly and satisfy our customers, we regularly support our employees with on-the-job training and invest in multiple apprenticeship programs.

Belt dryer type BT



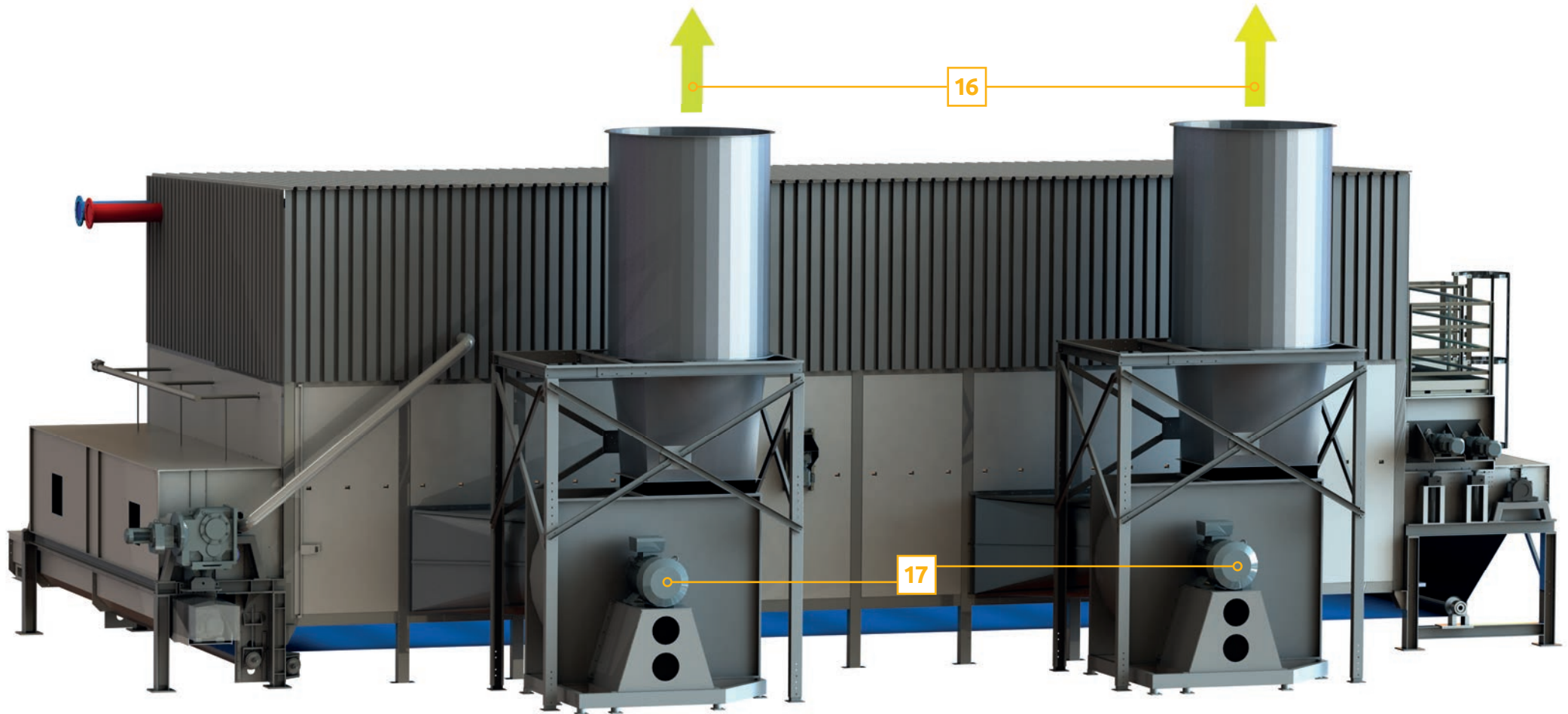
Characteristic features

— Efficient air distribution due to direct-coupled and frequency-controlled multi-vent radial fans

— Enclosed design allows for exterior installation at temperatures as low as -40 °C (insulated dryer tunnel)

- Modular concept that can be easily extended
- Low heat and electricity consumption thanks to perfectly matched components
- Large doors for easy maintenance

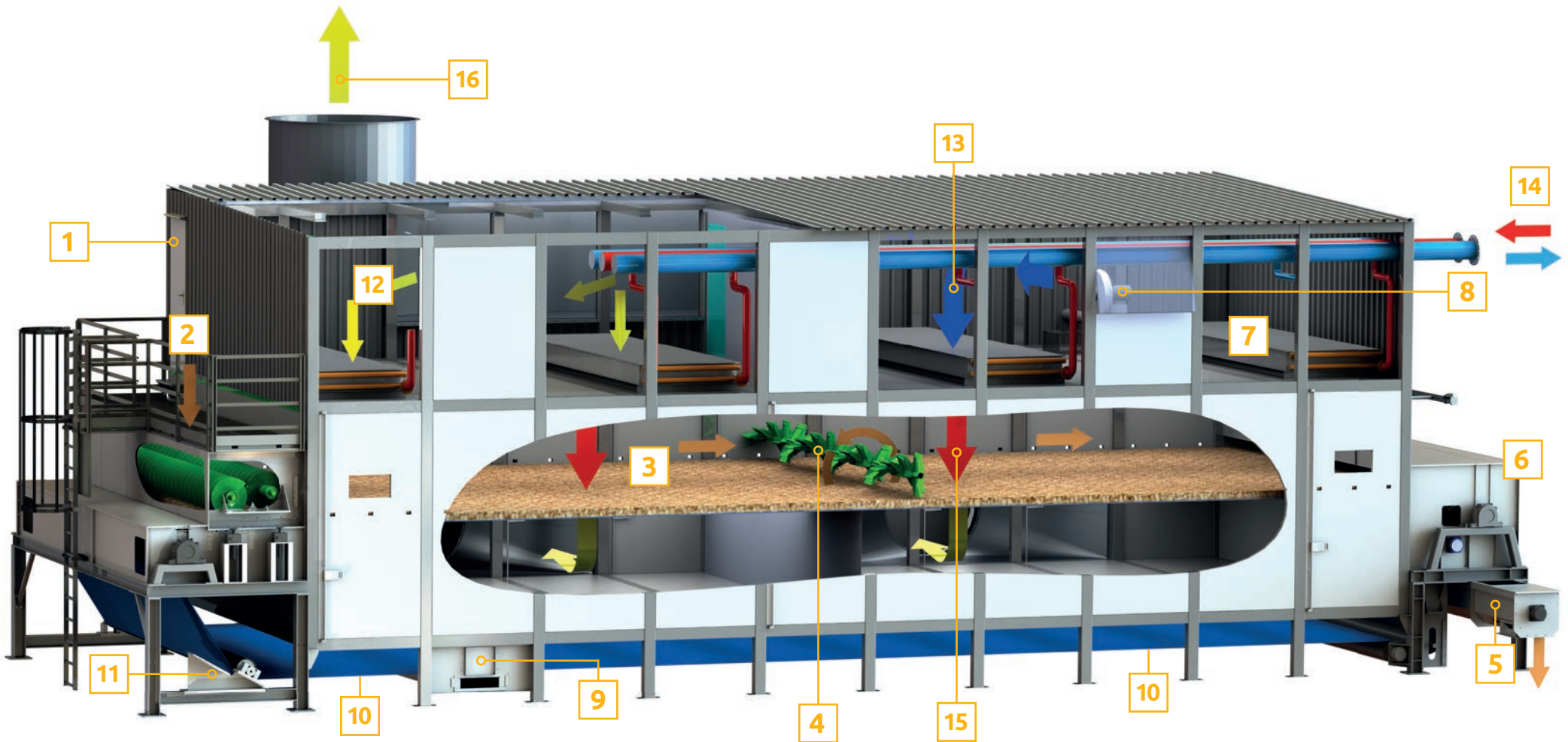
- Optimal product distribution due to double distribution screws
- Product-turning device for consistent final moisture content and energy-efficient product ventilation
- Top-down ventilation



1 = Maintenance access | 2 = Feeding station | 3 = Product | 4 = Turning device | 5 = Discharge screw | 6 = Belt cleaning system (dry) | 7 = Heat exchanger | 8 = Fan for belt cleaning system | 9 = Belt cleaning system (wet) | 10 = Web belt | 11 = Belt alignment | 12 = Fresh air intake | 13 = Fresh air | 14 = Heat supply | 15 = Drying air | 16 = Exhaust air | 17 = Exhaust air fan

Belt dryer type BTU

with air recirculation for heat recovery

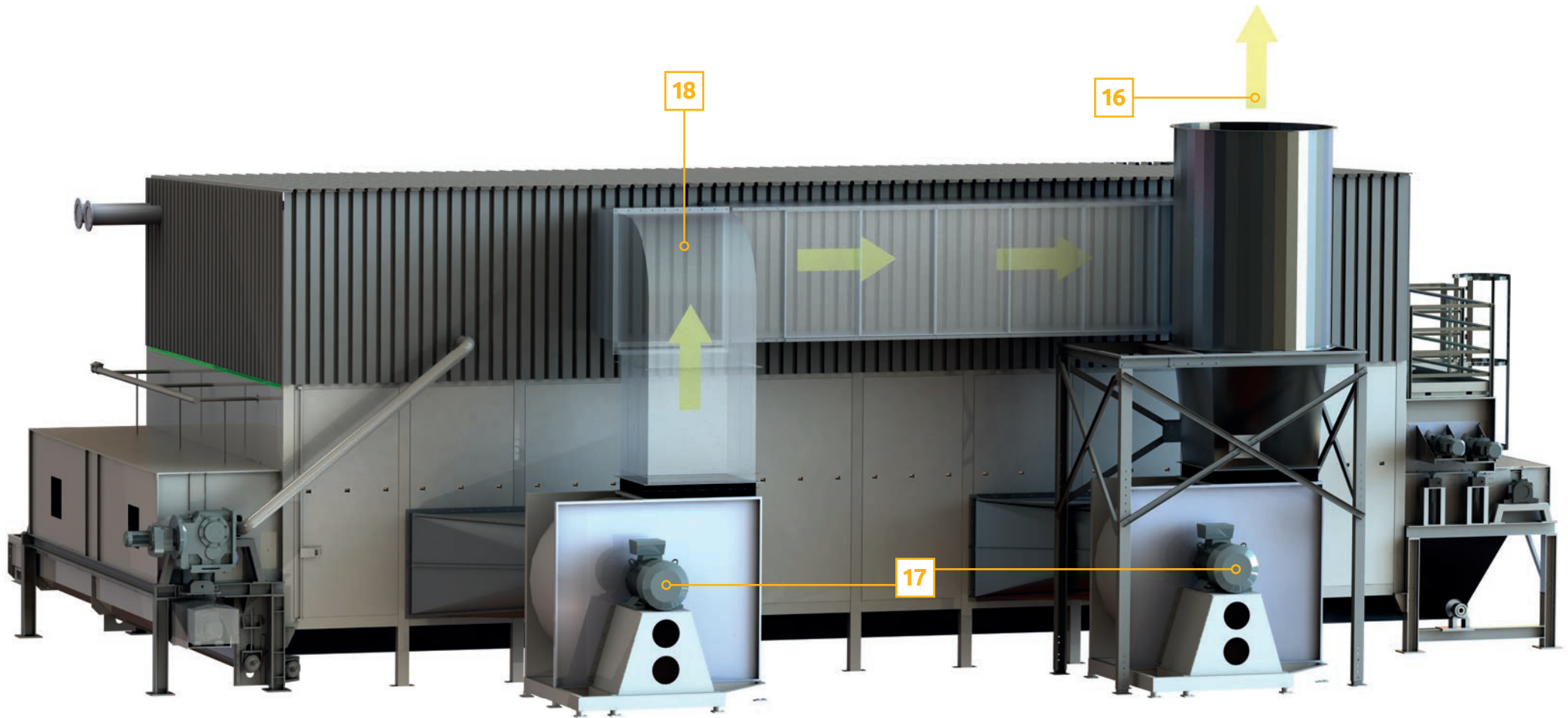


Characteristic features

— Reduced exhaust air volume

— Optimal product distribution due to double distribution screw

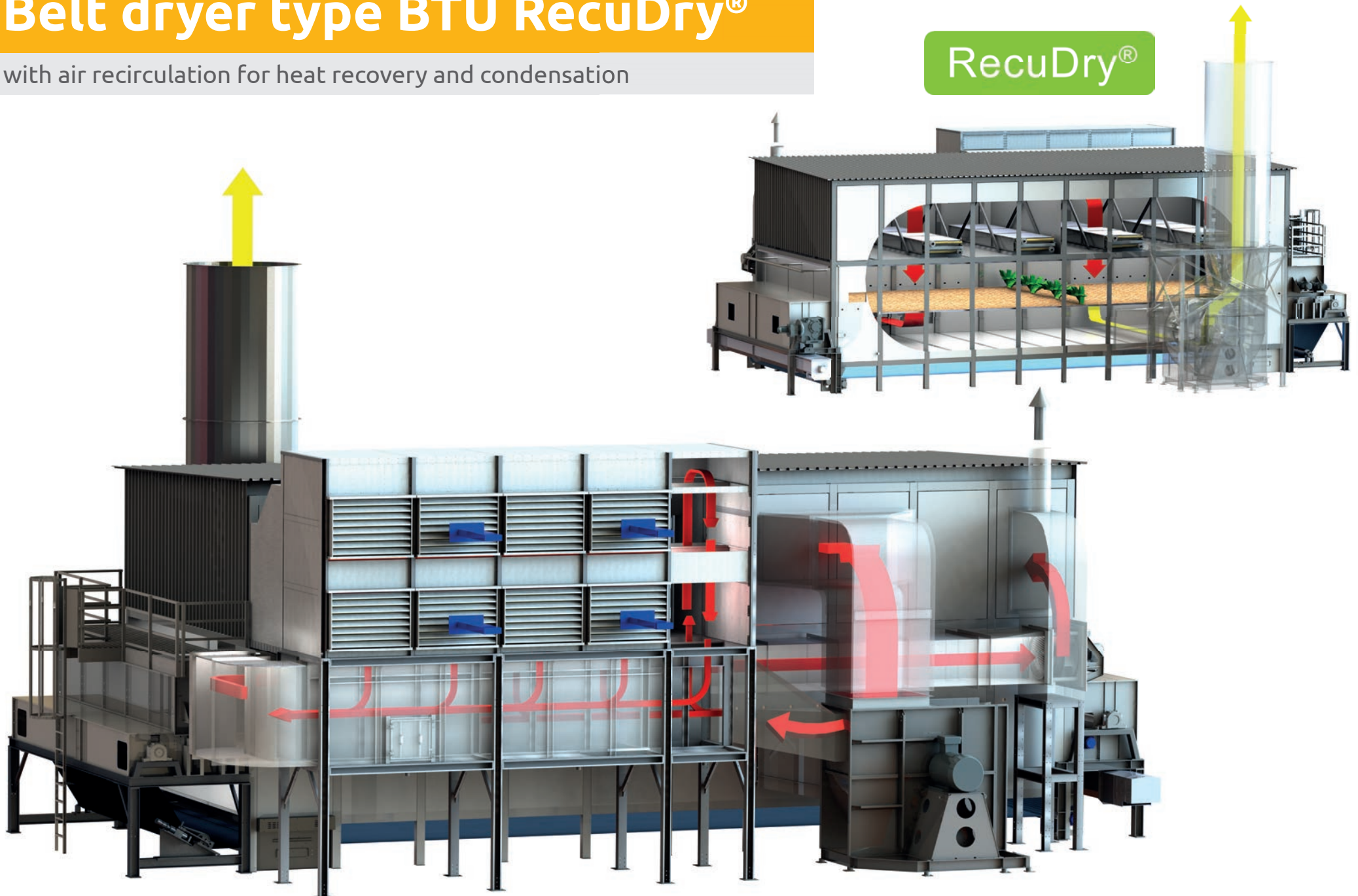
- Reduced emission mass flows
- Reduced specific thermal energy consumption
- Large doors for easy maintenance
- Enclosed design allows for exterior installation at temperatures as low as -40 °C (insulated dryer tunnel)
- Product-turning device for consistent final moisture content and energy-efficient product ventilation
- Top-down ventilation



1 = Maintenance access | 2 = Feeding station | 3 = Product | 4 = Turning device | 5 = Discharge screw | 6 = Belt cleaning system (dry) | 7 = Heat exchanger | 8 = Fan for belt cleaning system | 9 = Belt cleaning system (wet) | 10 = Web belt | 11 = Belt alignment | 12 = Fresh air intake | 13 = Fresh air | 14 = Heat supply | 15 = Drying air | 16 = Exhaust air | 17 = Exhaust air fan | 18 = Circulating air

Belt dryer type BTU RecuDry®

with air recirculation for heat recovery and condensation

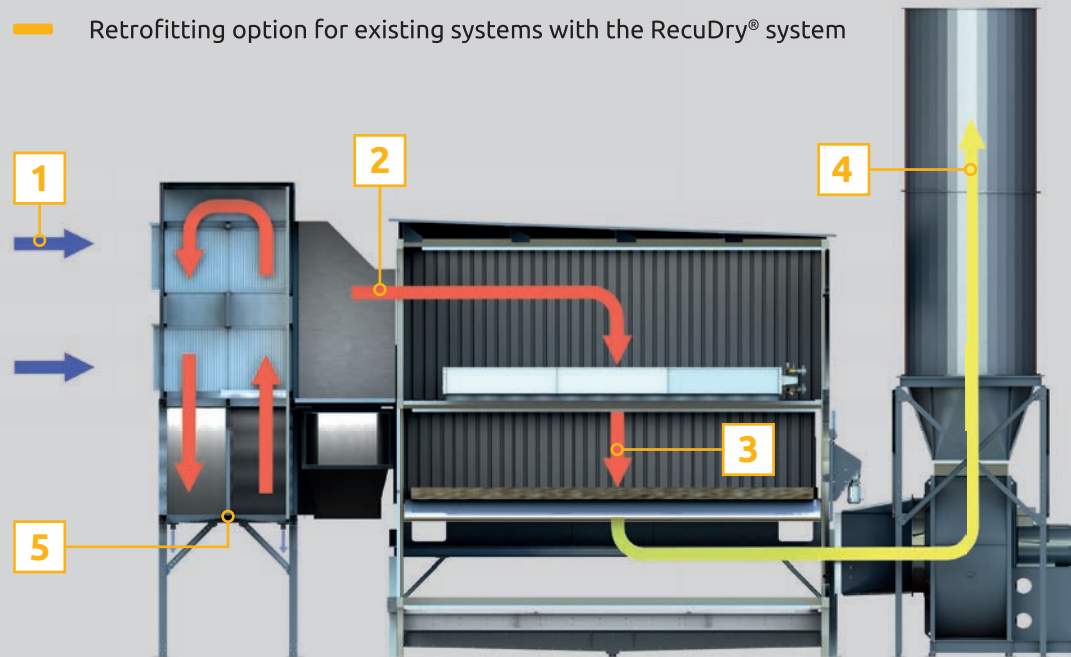


Characteristic features

Conventional drying technology separated into two drying areas:

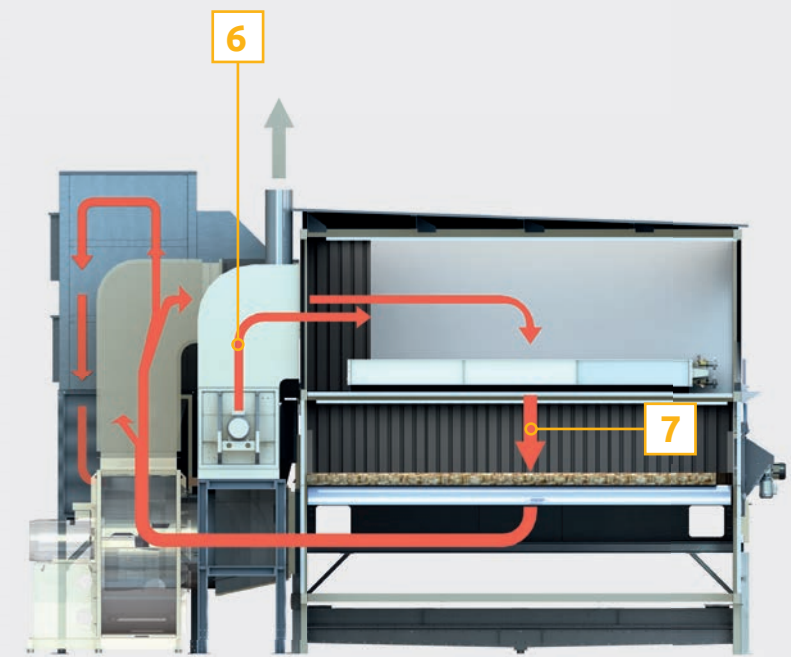
1. CONDENSATION MODULE:

- Latent energy is used to pre-heat the fresh air
- Maximum drying efficiency due to the majority of the energy utilized being recovered with an air-to-air heat exchanger
- Energy savings of 35–55 %, depending on the net drying area
- Low exhaust air volumes and emissions
- Retrofitting option for existing systems with the RecuDry® system



2. RECU MODULE:

- Optimal saturation using circulation and reheating
- Use of this energy-rich air in the condensation module
- RecuDry® Advanced design without reheating



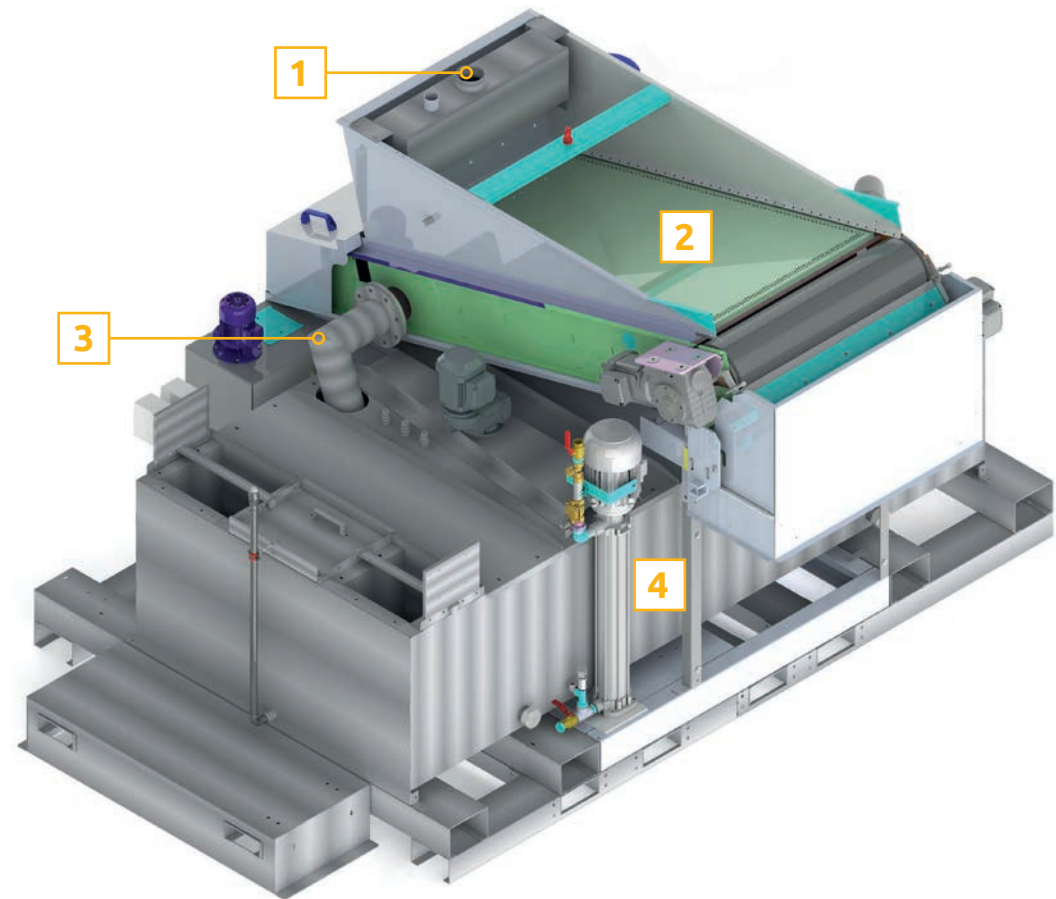
1 = Fresh air | 2 = Pre-heated fresh air | 3 = Drying air | 4 = Exhaust air | 5 = Recu air | 6 = Condensed Recu air | 7 = Drying air Recu

Belt dryer type BTU RecuDry®

with air recirculation for heat recovery and condensation

Functionality of the condensate treatment

- Belt filter with neutralisation unit
- Serves to clean and treat continuously produced condensate from the condensation modules as well as contaminated wash water from the cleaning unit
- Addition of caustic soda for neutralisation
- Excess is discharged via waste water pipe
- Treated condensate is used to clean the heat recovery system



1 = Condensate inlet | 2 = Belt filter | 3 = Condensate outlet | 4 = Condensate collecting basin

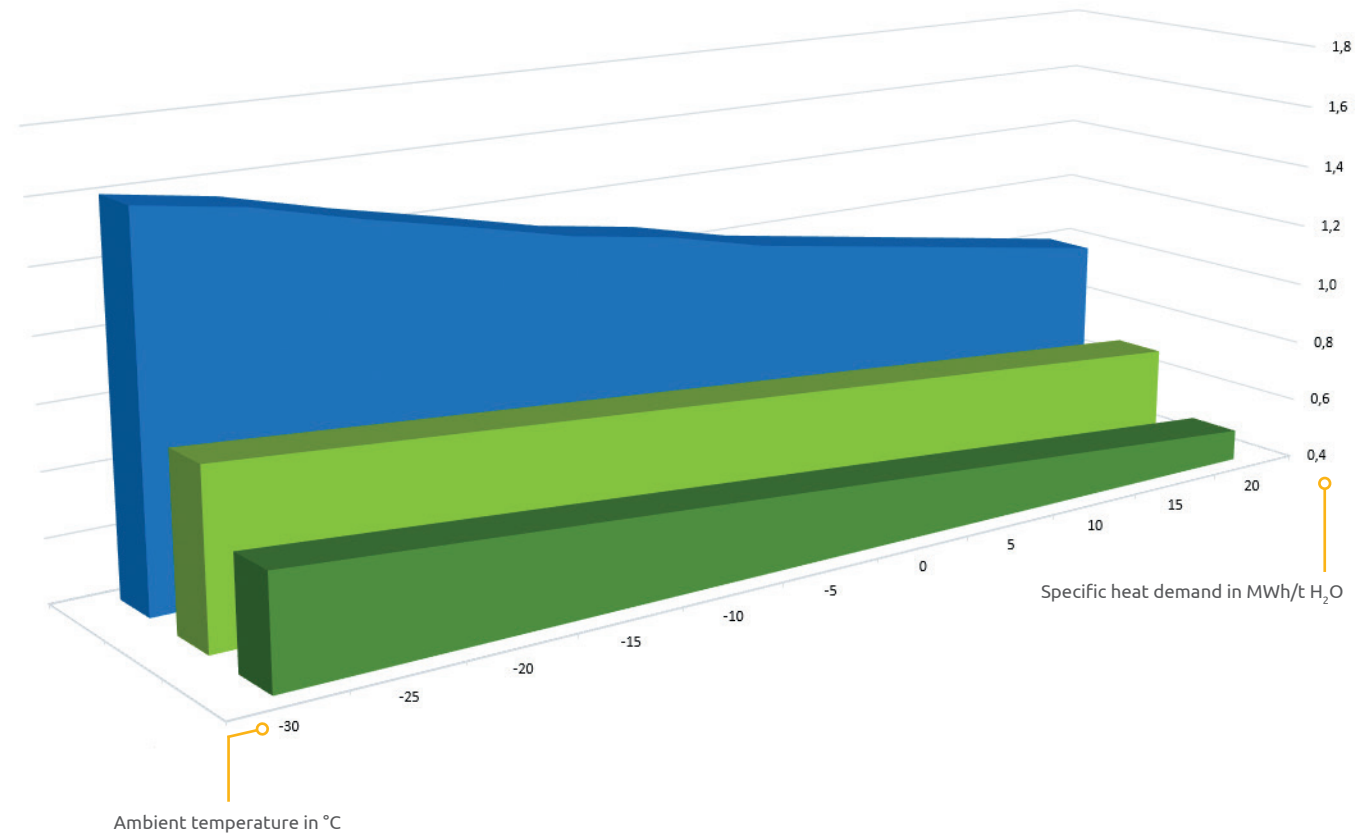
Energy saving compared to other belt dryers

Exemplary illustration of energy saving

Comparison of a drying system's energy demand in a wood-pelleting plant based on a heat supply with 90 °C hot water:

Compared to the stela **BT standard**, stela **BTU RecuDry®** yields energy savings of 35 % during summer and 40 % during winter months, depending on the outside temperature.

Energy savings of up to 55 % can be achieved with the stela **RecuDry® Advanced System** by further increasing the drying area.



- BT Standard
- BTU RecuDry®
- BTU RecuDry® Advanced

stela **Standard** drying system compared with stela **BTU RecuDry®** and stela **BTU RecuDry® Advanced**.

Belt dryer type BTL

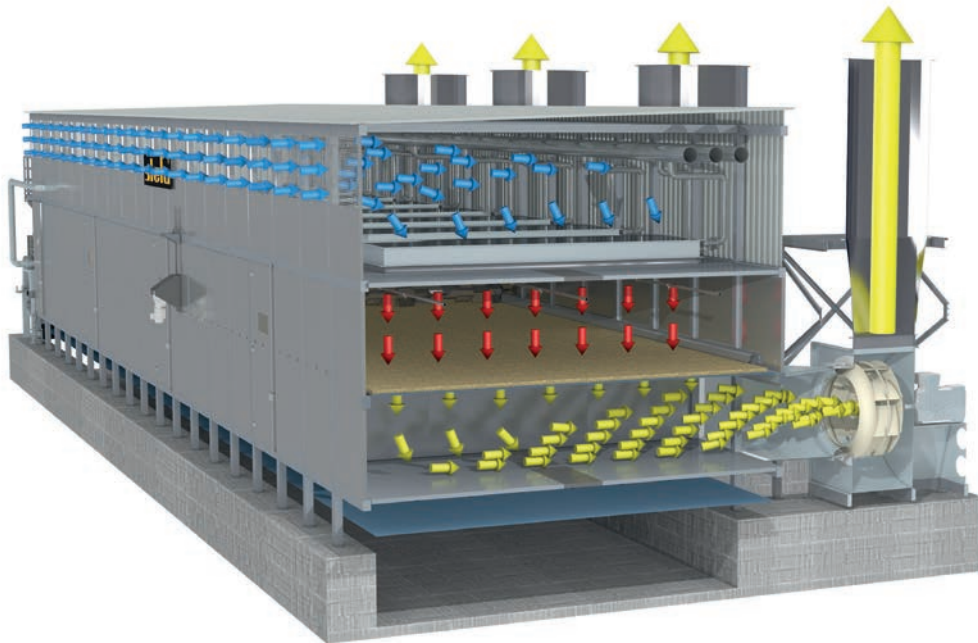
Characteristic features

- Cost-effective drying system in the lower and medium output ranges
- Modular concept that can be easily extended
- Top-down ventilation
- Optimal product distribution due to double distribution screws
- Product-turning device for consistent final moisture content and energy-efficient product ventilation



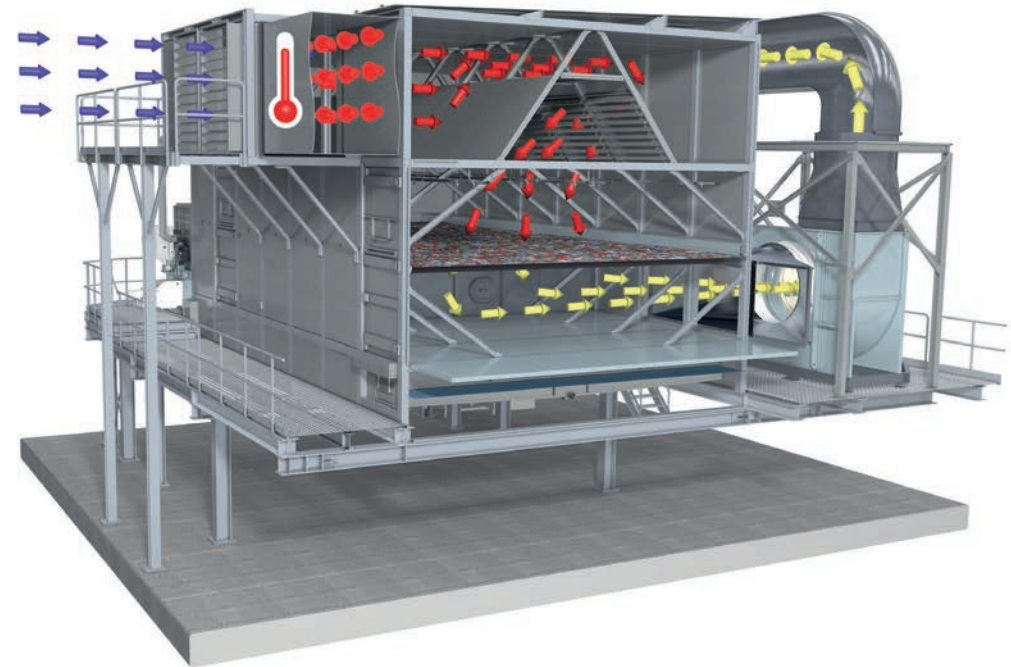
Indirect drying

- Use finned pipe heat exchangers
- For hot water up to 130 °C
- For hot water from cogeneration or flue gas condensation
- For saturated steam up to 15 bar
- Plate heat exchangers can be used for special media (geothermal energy, thermal oil)



Direct drying

- With hot air > 120 °C
- The raw gas temperature is homogenised with fresh air in a mixing chamber
- For example, brick cooling air is used prior to dust extraction in cement plant



References worldwide

Berneck S.A., Brazil



- **Type:** BT 1/8400-58
- **Product:** Pine bark and chips
- **Dryer output capacity:** 80.0 t/h from 60 % – 51 % MC

Pieper Pellet GmbH, Germany



- **Type:** BTU RecuDry® 1/6200-25.5
- **Product:** Sawdust
- **Dryer output capacity:** 10.0 t/h from 40 % – 10 % MC

Kastamonu Samsun, Turkey



- **Type:** BTU 1/6200-45
- **Product:** Sawdust, wood chips
- **Dryer output capacity:** 27.3 t/h from 82 % – 1.5 % atro BD

Schwenk Latvija SA, Latvia



- **Type:** BT 1/6200-13.5
- **Product:** RDF
- **Dryer output capacity:** 7.7 t/h from 25 % – 3 % MC

JSC, VMG Klaipeda, Lithuania



- **Type:** BTU RecuDry® 1/6200-34.5
- **Product:** Wood chips
- **Dryer output capacity:** 14.0 t/h from 47 % – 2 %

Biogrow, India



- **Type:** BTL 1/3000-15
- **Product:** Coco peat
- **Dryer output capacity:** 1.25 t/h from 60 % – 20 % MC

Ziegler Holzbauelemente, Germany

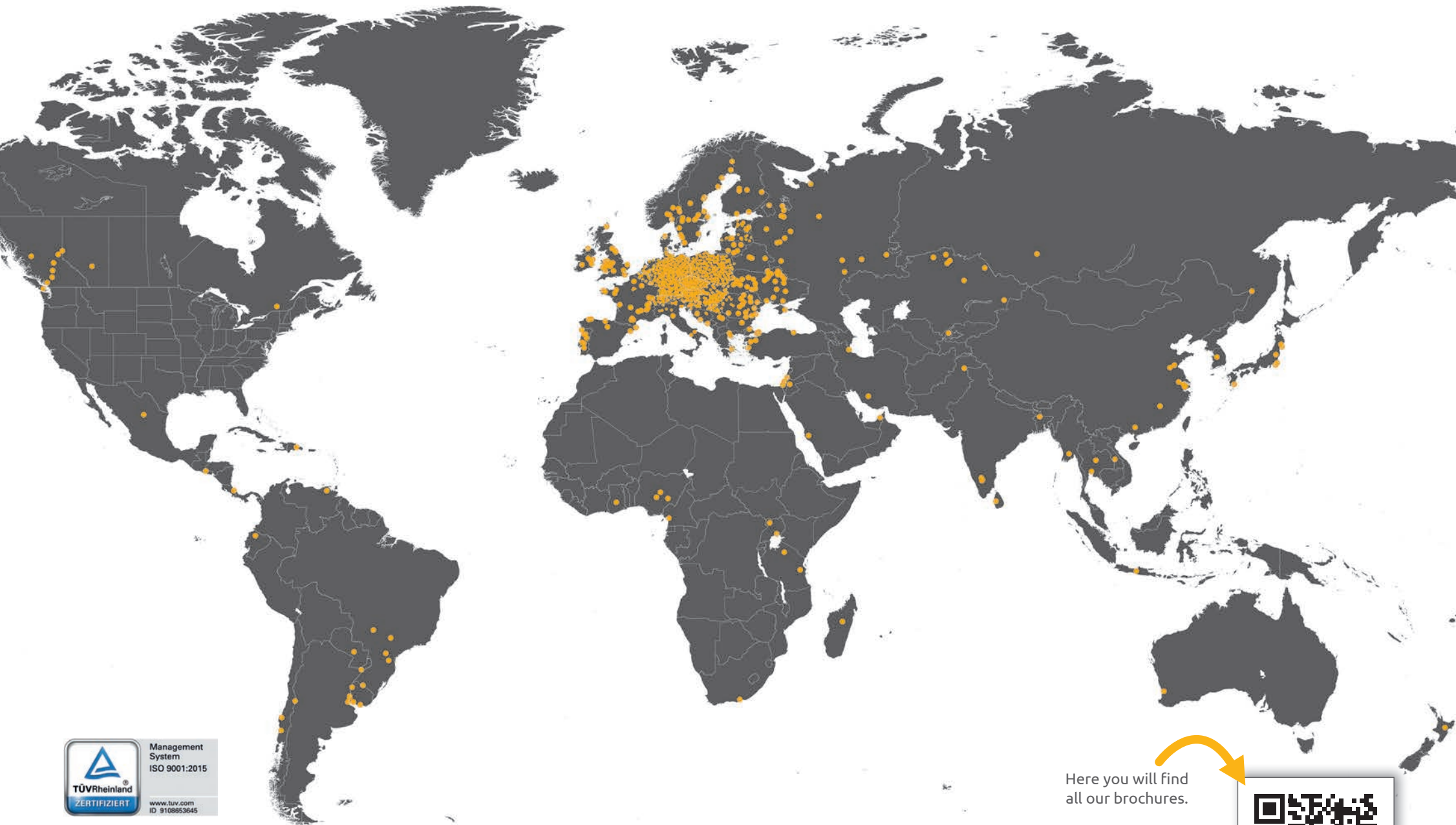


- **Type:** BTU RecuDry® 1/6200-60
- **Product:** Sawdust
- **Dryer output capacity:** 36.4 t/h from 40 % – 10 % MC

Pyrocell, Sweden



- **Type:** BTU 1/6200-27
- **Product:** Sawdust, wood chips
- **Dryer output capacity:** 6.0 t/h from 55 % – 3 % MC



Here you will find
all our brochures.



drying technology

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